

# Field 14 (Butt) Welding Parameters

CURRENT AS OF  
04/11/2023

Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Air-Pro® (PE)	3" (90mm) SDR7	8.0 bar	2 mm	Almost Zero	123 seconds	8 seconds	8.0 bar	16.0 min
Air-Pro® (PE)	4" (110mm) SDR7	12.0 bar	2 mm	Almost Zero	151 seconds	9 seconds	12.0 bar	20.0 min
Air-Pro® (PE)	6" (160mm) SDR11	17.0 bar	2 mm	Almost Zero	146 seconds	9 seconds	17.0 bar	14.2 min
Air-Pro® (PE)	8" (200mm) SDR11	27.0 bar	2 mm	Almost Zero	182 seconds	10 seconds	27.0 bar	17.3 min
Air-Pro® (PE)	10" (250mm) SDR11	42.0 bar	2.5 mm	Almost Zero	227 seconds	11 seconds	42.0 bar	21.2 min
Air-Pro® (PE)	12" (315mm) SDR11	66.0 bar	3 mm	Almost Zero	286 seconds	13 seconds	66.0 bar	26.4 min
Asahitec™ Solid Wall (PP-RCT)	3" (90mm) SDR11	4.0 bar	1 mm	Almost Zero	94 seconds	6 seconds	4.0 bar	8.6 min
Asahitec™ Solid Wall (PP-RCT)	4" (110mm) SDR11	6.0 bar	1 mm	Almost Zero	113 seconds	7 seconds	6.0 bar	10.2 min
Asahitec™ Solid Wall (PP-RCT)	5" (125mm) SDR11	7.0 bar	1 mm	Almost Zero	129 seconds	7 seconds	7.0 bar	11.5 min
Asahitec™ Solid Wall (PP-RCT)	6" (160mm) SDR11	12.0 bar	1 mm	Almost Zero	161 seconds	8 seconds	12.0 bar	14.2 min
Asahitec™ Solid Wall (PP-RCT)	8" (200mm) SDR11	18.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	18.0 bar	17.3 min
Asahitec™ Solid Wall (PP-RCT)	10" (250mm) SDR11	28.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	28.0 bar	21.2 min
Asahitec™ Solid Wall (PP-RCT)	12" (315mm) SDR11	44.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	44.0 bar	26.4 min



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### Welding Temperatures

PP: 393°F - 410°F (200°C - 210°C)  
 PE: 420°F - 446°F (215°C - 230°C)  
 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:

- the joint connection was created under workshop conditions and
- the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint

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Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Asahitec™ Solid Wall (PP-RCT)	14" (355mm) SDR11	56.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	56.0 bar	29.6 min
Asahitec™ Solid Wall (PP-RCT)	3" (90mm) SDR7	6.0 bar	1 mm	Almost Zero	138 seconds	7 seconds	6.0 bar	12.3 min
Asahitec™ Solid Wall (PP-RCT)	4" (110mm) SDR7	8.0 bar	1 mm	Almost Zero	166 seconds	8 seconds	8.0 bar	14.7 min
Asahitec™ Solid Wall (PP-RCT)	5" (125mm) SDR7	10.0 bar	1 mm	Almost Zero	187 seconds	8 seconds	10.0 bar	16.4 min
Chem Proline® (PE)	3" (90mm) SDR11	6.0 bar	1.5 mm	Almost Zero	82 seconds	6 seconds	6.0 bar	8.6 min
Chem Proline® (PE)	4" (110mm) SDR11	8.0 bar	1.5 mm	Almost Zero	100 seconds	7 seconds	8.0 bar	10.2 min
Chem Proline® (PE)	6" (160mm) SDR11	17.0 bar	2 mm	Almost Zero	146 seconds	9 seconds	17.0 bar	14.2 min
Chem Proline® (PE)	8" (200mm) SDR11	27.0 bar	2 mm	Almost Zero	182 seconds	10 seconds	27.0 bar	17.3 min
Chem Proline® (PE)	10" (250mm) SDR11	42.0 bar	2.5 mm	Almost Zero	227 seconds	11 seconds	42.0 bar	21.2 min
Chem Proline® (PE)	12" (315mm) SDR11	66.0 bar	3 mm	Almost Zero	286 seconds	13 seconds	66.0 bar	26.4 min
Chem Proline® (PE)	14" (355mm) SDR11	84.0 bar	3 mm	Almost Zero	322 seconds	14 seconds	84.0 bar	39.0 min
Climatec™ (PP-RCT)	3" (90mm) SDR11	4.0 bar	1 mm	Almost Zero	94 seconds	6 seconds	4.0 bar	8.6 min
Climatec™ (PP-RCT)	4" (110mm) SDR11	6.0 bar	1 mm	Almost Zero	113 seconds	7 seconds	6.0 bar	10.2 min



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 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:  
 - the joint connection was created under workshop conditions and  
 - the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint

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Climatec™ (PP-RCT)	5" (125mm) SDR11	7.0 bar	1 mm	Almost Zero	129 seconds	7 seconds	7.0 bar	11.5 min
Climatec™ (PP-RCT)	6" (160mm) SDR17	8.0 bar	1 mm	Almost Zero	108 seconds	6 seconds	8.0 bar	9.8 min
Climatec™ (PP-RCT)	8" (200mm) SDR17	12.0 bar	1 mm	Almost Zero	134 seconds	7 seconds	12.0 bar	11.9 min
Climatec™ (PP-RCT)	10" (250mm) SDR17	19.0 bar	1 mm	Almost Zero	163 seconds	8 seconds	19.0 bar	14.4 min
Climatec™ (PP-RCT)	12" (315mm) SDR17	30.0 bar	1 mm	Almost Zero	203 seconds	9 seconds	30.0 bar	17.8 min
Climatec™ (PP-RCT)	14" (355mm) SDR17	41.0 bar	1.5 mm	Almost Zero	225 seconds	10 seconds	41.0 bar	19.8 min
Proline® PRO150 (PP)	3" (90mm) SDR11	4.0 bar	1 mm	Almost Zero	94 seconds	6 seconds	4.0 bar	8.6 min
Proline® PRO150 (PP)	4" (110mm) SDR11	6.0 bar	1 mm	Almost Zero	113 seconds	7 seconds	6.0 bar	10.2 min
Proline® PRO150 (PP)	4-1/2" (125mm) SDR11	7.0 bar	1 mm	Almost Zero	129 seconds	7 seconds	7.0 bar	11.5 min
Proline® PRO150 (PP)	5" (140mm) SDR11	9.0 bar	1 mm	Almost Zero	142 seconds	7 seconds	9.0 bar	12.6 min
Proline® PRO150 (PP)	6" (160mm) SDR11	12.0 bar	1 mm	Almost Zero	161 seconds	8 seconds	12.0 bar	14.2 min
Proline® PRO150 (PP)	7" (180mm) SDR11	15.0 bar	1 mm	Almost Zero	180 seconds	8 seconds	15.0 bar	15.8 min
Proline® PRO150 (PP)	8" (200mm) SDR11	18.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	18.0 bar	17.3 min



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 PE: 420°F - 446°F (215°C - 230°C)  
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 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:

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Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Proline® PRO150 (PP)	9" (225mm) SDR11	23.0 bar	1.5 mm	Almost Zero	220 seconds	9 seconds	23.0 bar	19.3 min
Proline® PRO150 (PP)	10" (250mm) SDR11	28.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	28.0 bar	21.2 min
Proline® PRO150 (PP)	11" (280mm) SDR11	35.0 bar	1.5 mm	Almost Zero	265 seconds	11 seconds	35.0 bar	23.5 min
Proline® PRO150 (PP)	12" (315mm) SDR11	44.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	44.0 bar	26.4 min
Proline® PRO150 (PP)	14" (355mm) SDR11	56.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	56.0 bar	29.6 min
Proline® PRO90 (PP)	3" (90mm) SDR17.6	3.0 bar	1 mm	Almost Zero	145 seconds	5 seconds	3.0 bar	7.0 min
Proline® PRO90 (PP)	4" (110mm) SDR17.6	4.0 bar	1 mm	Almost Zero	164 seconds	6 seconds	4.0 bar	10.0 min
Proline® PRO90 (PP)	4-1/2" (125mm) SDR17.6	5.0 bar	1 mm	Almost Zero	176 seconds	6 seconds	5.0 bar	12.0 min
Proline® PRO90 (PP)	5" (140mm) SDR17.6	6.0 bar	1 mm	Almost Zero	189 seconds	6 seconds	6.0 bar	14.0 min
Proline® PRO90 (PP)	6" (160mm) SDR17.6	8.0 bar	1 mm	Almost Zero	204 seconds	6 seconds	8.0 bar	15.0 min
Proline® PRO90 (PP)	7" (180mm) SDR17.6	10.0 bar	1 mm	Almost Zero	220 seconds	7 seconds	10.0 bar	17.0 min
Proline® PRO90 (PP)	8" (200mm) SDR17.6	12.0 bar	1 mm	Almost Zero	237 seconds	7 seconds	12.0 bar	19.0 min
Proline® PRO90 (PP)	9" (225mm) SDR17.6	15.0 bar	1 mm	Almost Zero	255 seconds	7 seconds	15.0 bar	21.0 min



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Proline® PRO90 (PP)	10" (250mm) SDR17.6	18.0 bar	1 mm	Almost Zero	272 seconds	8 seconds	18.0 bar	23.0 min
Proline® PRO90 (PP)	11" (280mm) SDR17.6	23.0 bar	1 mm	Almost Zero	292 seconds	8 seconds	23.0 bar	26.0 min
Proline® PRO90 (PP)	12" (315mm) SDR17.6	29.0 bar	1 mm	Almost Zero	317 seconds	9 seconds	29.0 bar	28.0 min
Proline® PRO90 (PP)	14" (355mm) SDR17.6	36.0 bar	1.5 mm	Almost Zero	341 seconds	9 seconds	36.0 bar	32.0 min
Proline® PRO45 (PP)	4" (110mm) SDR33	2.0 bar	0.5 mm	Almost Zero	40 seconds	5 seconds	2.0 bar	5.0 min
Proline® PRO45 (PP)	4-1/2" (125mm) SDR33	3.0 bar	0.5 mm	Almost Zero	46 seconds	5 seconds	3.0 bar	5.0 min
Proline® PRO45 (PP)	5" (140mm) SDR33	4.0 bar	0.5 mm	Almost Zero	51 seconds	5 seconds	4.0 bar	5.0 min
Proline® PRO45 (PP)	6" (160mm) SDR33	5.0 bar	0.5 mm	Almost Zero	57 seconds	5 seconds	5.0 bar	5.0 min
Proline® PRO45 (PP)	7" (180mm) SDR33	6.0 bar	0.5 mm	Almost Zero	64 seconds	5 seconds	6.0 bar	6.0 min
Proline® PRO45 (PP)	8" (200mm) SDR33	7.0 bar	0.5 mm	Almost Zero	72 seconds	6 seconds	7.0 bar	6.7 min
Proline® PRO45 (PP)	9" (225mm) SDR33	9.0 bar	0.5 mm	Almost Zero	80 seconds	6 seconds	9.0 bar	7.4 min
Proline® PRO45 (PP)	10" (250mm) SDR33	10.0 bar	1 mm	Almost Zero	89 seconds	6 seconds	10.0 bar	8.1 min
Proline® PRO45 (PP)	11" (280mm) SDR33	13.0 bar	1 mm	Almost Zero	98 seconds	6 seconds	13.0 bar	8.9 min



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Proline® PRO45 (PP)	12" (315mm) SDR33	16.0 bar	1 mm	Almost Zero	110 seconds	7 seconds	16.0 bar	9.9 min
Proline® PRO45 (PP)	14" (355mm) SDR33	20.0 bar	1 mm	Almost Zero	123 seconds	7 seconds	20.0 bar	11.0 min
Super Proline® (PVDF)	3" (90mm) SDR21	2.0 bar	0.5 mm	Almost Zero	83 seconds	3 seconds	2.0 bar	7.0 min
Super Proline® (PVDF)	4" (110mm) SDR21	3.0 bar	0.5 mm	Almost Zero	93 seconds	3 seconds	3.0 bar	8.5 min
Super Proline® (PVDF)	6" (160mm) SDR21	7.0 bar	0.7 mm	Almost Zero	117 seconds	4 seconds	7.0 bar	11.0 min
Super Proline® (PVDF)	8" (200mm) SDR21	10.0 bar	1 mm	Almost Zero	136 seconds	4 seconds	10.0 bar	13.5 min
Super Proline® (PVDF)	10" (250mm) SDR21	16.0 bar	1.1 mm	Almost Zero	159 seconds	4 seconds	16.0 bar	16.5 min
Super Proline® (PVDF)	3" (90mm) SDR33	2.0 bar	0.5 mm	Almost Zero	68 seconds	3 seconds	2.0 bar	5.5 min
Super Proline® (PVDF)	4" (110mm) SDR33	2.0 bar	0.5 mm	Almost Zero	74 seconds	3 seconds	2.0 bar	6.0 min
Super Proline® (PVDF)	6" (160mm) SDR33	5.0 bar	0.5 mm	Almost Zero	89 seconds	3 seconds	5.0 bar	8.0 min
Super Proline® (PVDF)	8" (200mm) SDR33	7.0 bar	0.6 mm	Almost Zero	102 seconds	4 seconds	7.0 bar	9.5 min
Super Proline® (PVDF)	10" (250mm) SDR33	10.0 bar	0.7 mm	Almost Zero	117 seconds	4 seconds	10.0 bar	11.0 min
Super Proline® (PVDF)	12" (315mm) SDR33	16.0 bar	1 mm	Almost Zero	137 seconds	4 seconds	16.0 bar	13.5 min



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Watertec™ (PP-RCT)	3" (90mm) SDR9	5.0 bar	1 mm	Almost Zero	114 seconds	7 seconds	5.0 bar	10.3 min
Watertec™ (PP-RCT)	4" (110mm) SDR9	7.0 bar	1 mm	Almost Zero	138 seconds	7 seconds	7.0 bar	12.3 min
Watertec™ (PP-RCT)	5" (125mm) SDR9	9.0 bar	1 mm	Almost Zero	155 seconds	8 seconds	9.0 bar	13.7 min
Watertec™ (PP-RCT)	6" (160mm) SDR11	12.0 bar	1 mm	Almost Zero	161 seconds	8 seconds	12.0 bar	14.2 min
Watertec™ (PP-RCT)	8" (200mm) SDR11	18.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	18.0 bar	17.3 min
Watertec™ (PP-RCT)	10" (250mm) SDR11	28.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	28.0 bar	21.2 min
Watertec™ (PP-RCT)	12" (315mm) SDR11	44.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	44.0 bar	26.4 min
Watertec™ (PP-RCT)	14" (355mm) SDR11	56.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	56.0 bar	29.6 min
Chem Prolok® (PE)	3" X 6" (90mm X 160mm) SDR11X33	13.0 bar	1 mm	Almost Zero	82 seconds	6 seconds	13.0 bar	8.6 min
Chem Prolok® (PE)	4" X 8" (110mm X 200mm) SDR11X33	26.0 bar	1 mm	Almost Zero	100 seconds	7 seconds	26.0 bar	10.2 min
Chem Prolok® (PE)	6" X 10" (160mm X 250mm) SDR11X33	45.0 bar	1.5 mm	Almost Zero	146 seconds	9 seconds	45.0 bar	14.2 min
Chem Prolok® (PE)	8" X 12" (200mm X 315mm) SDR11X33	51.0 bar	1 mm	Almost Zero	182 seconds	10 seconds	51.0 bar	17.3 min
Chem Prolok® (PE)	10" X 14" (250mm X 355mm) SDR11X33	72.0 bar	1 mm	Almost Zero	227 seconds	11 seconds	72.0 bar	21.2 min



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Chem Prolok® (PE)	2" X 6" (63mm X 160mm) SDR11X33	10.0 bar	1 mm	Almost Zero	58 seconds	5 seconds	10.0 bar	6.3 min
Duo-Pro® PRO150X150 (PP)	3" X 6" (90mm X 160mm) SDR11X11	16.0 bar	1 mm	Almost Zero	161 seconds	8 seconds	16.0 bar	14.2 min
Duo-Pro® PRO150X150 (PP)	4" X 8" (110mm X 200mm) SDR11X11	24.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	24.0 bar	17.3 min
Duo-Pro® PRO150X150 (PP)	6" X 10" (160mm X 250mm) SDR11X11	40.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	40.0 bar	21.2 min
Duo-Pro® PRO150X150 (PP)	8" X 12" (200mm X 315mm) SDR11X11	62.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	62.0 bar	26.4 min
Duo-Pro® PRO150X150 (PP)	10" X 14" (250mm X 355mm) SDR11X11	84.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	84.0 bar	29.6 min
Duo-Pro® PRO150X150 (PP)	2" X 6" (63mm X 160mm) SDR11X11	14.1 bar	1 mm	Almost Zero	161 seconds	8 seconds	14.1 bar	14.2 min



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- the joint connection was created under workshop conditions and
- the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint